

50PS60 TV INTERCONNECT DIAGRAM

NOTE: Diode tests are conducted with the PWB disconnected.

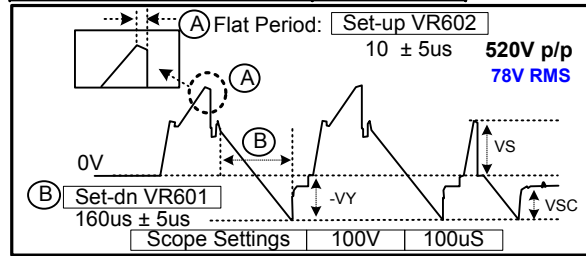
Note: If AC Det (Pin 18) is missing, the set will come on like normal, then in under 10 seconds it will turn off.

Note: The 17V supply will pulsate 2 to 3 times a second with Vs unloaded.

Y-SUS LOCATION	Generic Part
D51, 52, 61, 62, 71, 72	MA3DF30
Q51, 52, 61, 62, 71, 72, 73, 81, 82, 83	45F122
Q98, 99	K3667
Q93, 94, 95, 96, 97	IRF114229

P302	Pin	Diode Check	Pin	Diode Check
	1,2	Open	6,7	Open
	3	NC	8	NC
	4,5	Gnd	9,10	0.86V

Z-SUS LOCATION	Generic Part
D16, 17	RF2001
Q10, 11, 12, 20, 21, 22, 30, 31, 40, 41	45F122
D30, 31, 40, 41	MA3DF30
Q13, 14	20NF20
Q15	51N25



P811 / P812 "SMPS"

Pin	Label	STBY	Run	Diode Check
1,2	VS	0V	195V	Open
3	NC	NC	NC	NC
4,5	Gnd	Gnd	Gnd	Gnd
6,7	VA	0V	65V	Open
8	NC	NC	NC	NC
9,10	M5V	0V	5.0V	0.86V

P813 "SMPS" - P200 "CONTROL"

Pin	Label	STBY	Run	Diode Check
1,2,3,4	5V	0V	5V	0.75V
5,6,7,8	Gnd	Gnd	Gnd	Gnd

Switch Mode Power Supply

P814 "SMPS" - P1108 "MAIN"

Pin	Label	STBY	Run	Diode Check
1,2	17V	0V	17V	2.2V
3,4	Gnd	Gnd	Gnd	Gnd
5,6	12V	0V	12V	Open
7,8	Gnd	Gnd	Gnd	Gnd
9,10,12	5V	0.5V	5V	1.2V
11	5V STBY	5V	5V	Open
13,14,15	Gnd	Gnd	Gnd	Gnd
16	NC	NC	NC	NC
17	5V DET	0V	4.7V	1.45V
18	A/C DET	5V	5V	1.45V
19	RL ON	0V	3.3V	Open
20	VS ON	0V	3.2V	Open
21	M5V ON	0V	3.3V	Open
22	AUTO GND	0V	0V	Open
23	STBY 5	5V	5.0V	Open
*24	KEY ON	*0V	*0V	Open

*If pin 24 is at 4.3V with the unit is in standby the Power Button is released and will prevent the unit from coming on.

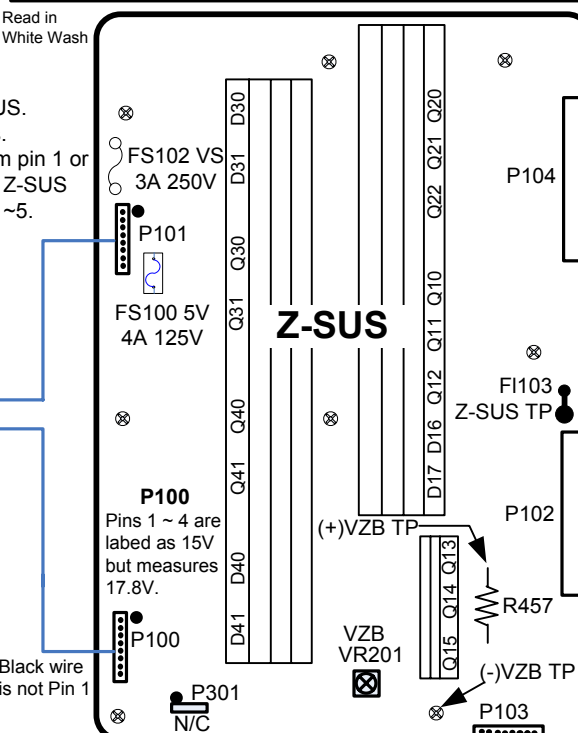
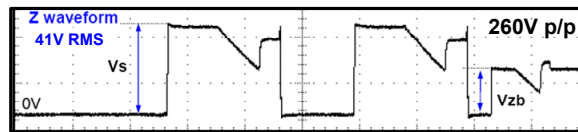
TIP: If A/C DET is low or missing, Remove AC Det (pin 28) out of P814 and jump it to any pin carrying 5V STBY. Then reapply power to the unit. If the TV now stays on, suspect a defective SMPS.

Pins 1,2 (17V) turned on with Vs On.

Pins 9,10,12 (+5V) turned on with Relay On Command.

Pin 17 (5V Det) not used.

TIP: To Test Z-SUS Without a good Y-SUS.
1) Light bulb load Vs.
2) Jump the 17V from pin 1 or pin 2 P814 to the Z-SUS connector P100 1~5.

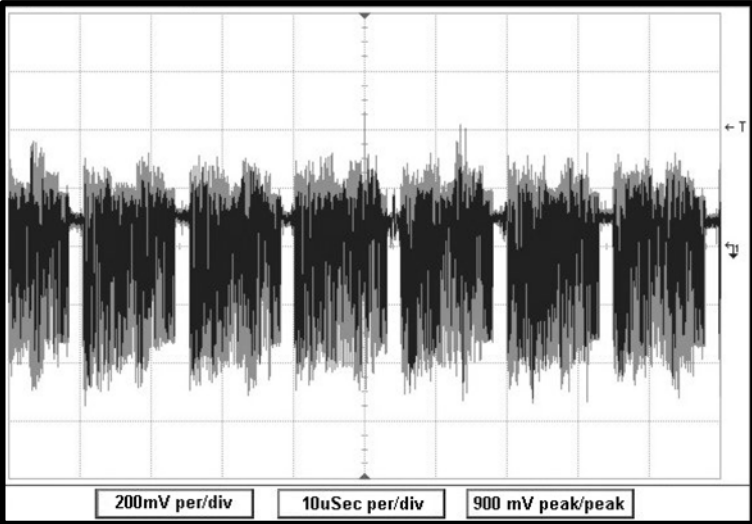


50PS60 LVDS P1003 WAVEFORMS

NOTE: LVDS P1003 Information
There are actually 20 pins carrying Video plus 4 pins carrying clock signals to the Control board. Only 8 are shown as an example of what signals are on each pin.

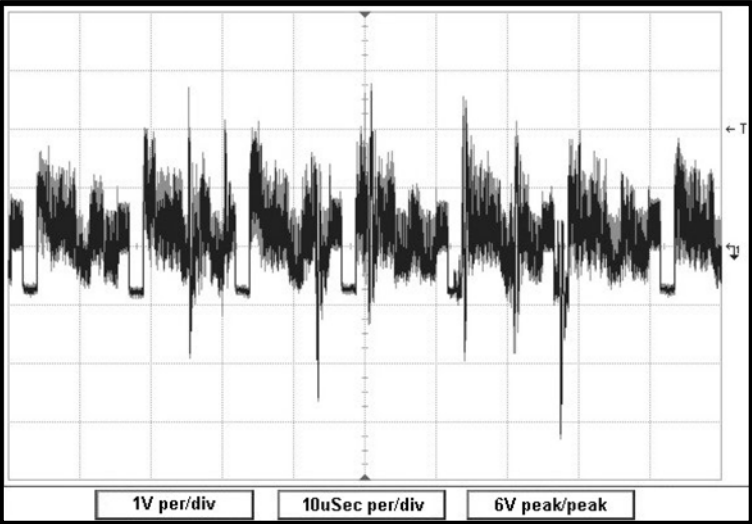
WAVEFORMS:
Waveforms taken using SMTP Color Bar input. All readings give their Time Base related to scope settings. All waveforms taken from the P1003.

MAIN PWB VIDEO TEST POINT (Pin 28)



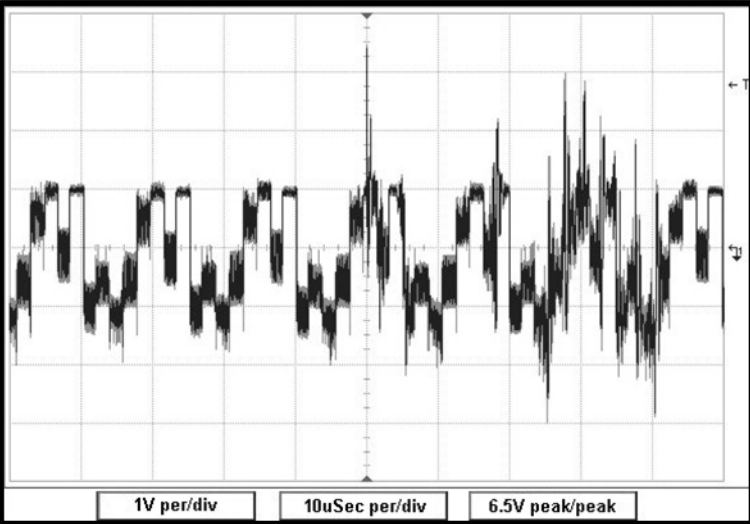
200mV per/div 10uSec per/div 900mV p/p

MAIN PWB VIDEO TEST POINT (Pin 27)



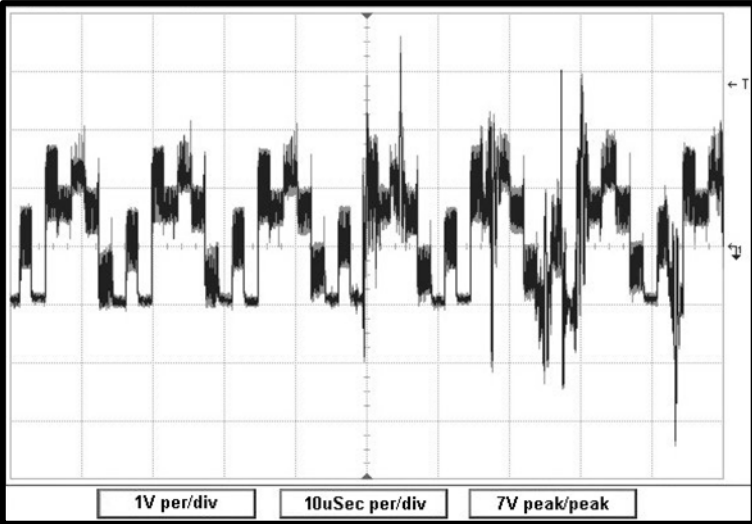
1V per/div 10uSec per/div 6V p/p

MAIN PWB VIDEO TEST POINT (Pin 22)



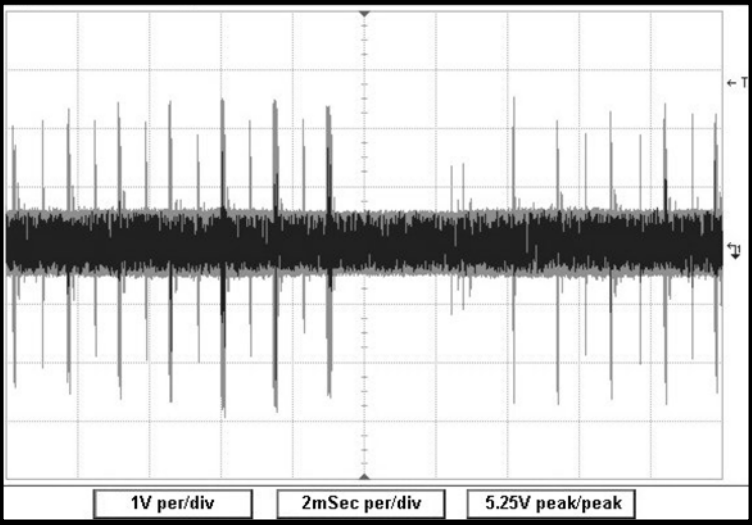
1V per/div 10uSec per/div 6.25V p/p

MAIN PWB VIDEO TEST POINT (Pin 21)



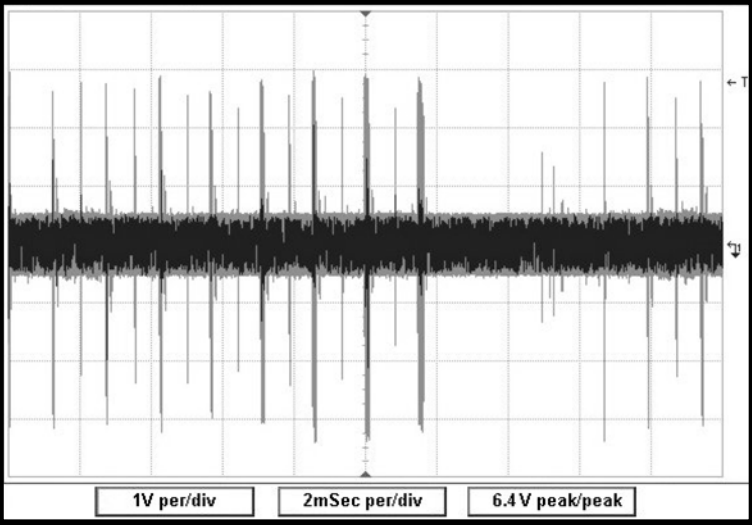
1V per/div 10uSec per/div 7V p/p

MAIN PWB VIDEO TEST POINT (Pin 17)



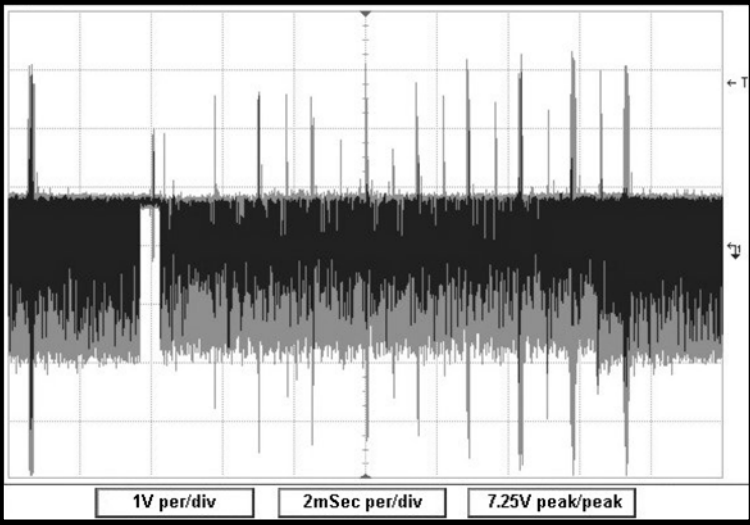
1V per/div 2mSec per/div 5.25V p/p

MAIN PWB VIDEO TEST POINT (Pin 16)



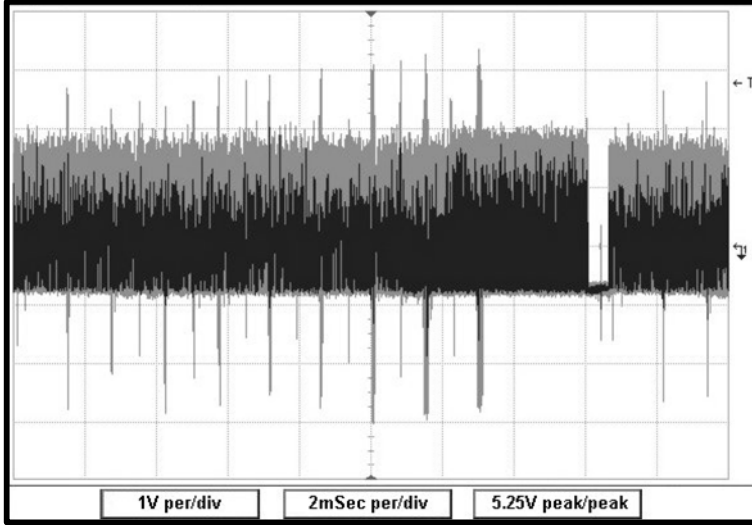
1V per/div 2mSec per/div 6.4V p/p

MAIN PWB VIDEO TEST POINT (Pin 12)



1V per/div 2mSec per/div 7.25V p/p

MAIN PWB VIDEO TEST POINT (Pin 11)



1V per/div 2mSec per/div 5.25V p/p

50PS60 MAIN (BACK SIDE) SIMICONDUCTORS

IC201 NVRAM Pin [1] Gnd [2] Gnd [3] Gnd [4] Gnd [5] 3.28V [6] 3.28V [7] 0V [8] 3.28V	IC304 1.8VMST Pin Reg [1] 0.6V [2] 1.8V [3] 3.28V	IC505 5V (Tuner) Pin Reg [1] 3.8V [2] 5V [3] 8V	IC602 RS232 RAM Pin [1] Gnd [2] Gnd [3] Gnd [4] Gnd [5] 4.5V [6] 4.5V [7] 3.3V [8] 4.5V	Q1001 Pow Down Pin IC1001 [B] 0V [E] Gnd [C] 3.3V	Q502 Video Buffer Pin [B] 0.6V [E] 2.1V [C] Gnd	Q890/2 HDMI1/2 Pin Hot Swap [B] 0V [E] Gnd [C] 0V
IC202 HDCP Pin [1] Gnd [2] Gnd [3] 3.28V [4] Gnd [5] 3.28V [6] 3.28V [7] 3.28V [8] 3.28V	IC305 3.3VMST Pin Reg [1] Gnd [2] 3.0V [3] 4.9V	IC601 RS232 Control Pin [1] 3.3V [2] 5.4V [3] 0V [4] 0V [5] 5.3V [6] 5.3V [7] 5.3V [8] 0V [9] 3.3V [10] 3.3V [11] 0.3V [12] 3.3V [13] 0V [14] 5.4V [15] 0V [16] 3.3V	IC802/3 HDMI1/2 Pin [1] Gnd [2] Gnd [3] Gnd [4] Gnd [5] 4.5V [6] 4.5V [7] 3.3V [8] 4.5V	Q302 Reset Pin [B] 3.3V [E] 3.2V [C] 0V	Q503 SIF Buffer Pin [B] 2.3V [E] 3.0V [C] Gnd	Q891/951 HDMI3/4 Pin Hot Swap [B] 0V [E] Gnd [C] 0V
IC301 3.3V VST Pin [1] Gnd [2] 3.3V [3] 5.0V	IC502 1.2V PVSB On Digital CH / Off Analog Pin Reg Gnd Gnd In 0V/3.3V Out 0V/1.2V		D1001 IC1001 Pin Reset Limit A 3.27V C 3.3V	Q303 Reset Pin [S] 4.9V [G] 4.9V [D] 0V	Q501 1.2V PVSB Pin Switch [S] 3.3V [G] 3.3V/0V [D] 0V/3.27V On Digital CH / Off Analog	
				Q501 1.2V PVSB Pin Switch [B] 0V/0.6V [E] 0V [C] 3.3V/0V On Digital CH / Off Analog	Q601 RS232 TX Pin Buffer [B] 0.6V [E] Gnd [C] 0V	
				D951 HDMI4 PWR Pin A 5.1V C 4.65V A 0V	D627 RS232 TX Noise Pin Suppression A (-5.3V) C 0.1V A Gnd	D628 RS232 RX Noise Pin Suppression A 0V C 0V A Gnd
					D633 RGB B+ Pin A 0V C 4.5V A 5.0V	D801 EDID B+ Pin A 4.6V C 4.9V A 5.1V
						D802 HDMI CEC Pin B+ A 0V C 3.17V A 3.27V

50PS60 MAIN (FRONT SIDE) SIMICONDUCTORS

IC302 1.3V VDDC Pin [1] 5.47V [2] 4.89V [3] 1.3V [4] Gnd [5] 0.9V [6] 1.19V [7] 4.85V [8] 3.55V	IC804 USB 5V Pin [1] 5.0V [2] Gnd [3] 3.2V [4] 0V [5] 0V [6] 5.1V	IC952 HDMI4 EDID Pin [1] Gnd [2] Gnd [3] Gnd [4] Gnd [5] 4.65V [6] 0V [7] 4.65V [8] 4.65V	Q301 Turns on Pin Q303 [B] 0.54V [E] Gnd [C] 0V
IC503 9V Reg Pin [1] 10V [2] Gnd [3] 8V	IC805 HDMI3 EDID Pin [1] Gnd [2] Gnd [3] Gnd [4] Gnd [5] 4.65V [6] 4.65V [7] 3.31V [8] 4.65V	D303 Reset Pin A 3.18V AC 3.28V C 3.28V	Q801 HDMI CEC Pin Amp [1] 0V [2] 3.16V [3] 3.27V [4] 3.28V
D804 HDMI1 PWR Pin A 5.1V C 4.65V A 0V	D805 HDMI2 PWR Pin A 5.1V C 4.65V A 0V	D806 HDMI3 PWR Pin A 5.1V C 4.65V A 0V	Q1002 Pow Down Pin IC1001 [B] 0.6V [E] Gnd [C] 0V